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LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

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BULLETIN No. 236

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GROUND GINGER

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INLAND REVENUE DEPARTMENT  
OTTAWA, CANADA.

BULLETIN No. 236

GROUND GINGER

OTTAWA, March 8, 1912.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 151 samples of ground ginger, purchased throughout Canada in October, 1911.

Ground ginger has been investigated and reported by this department as follows:—

	Total Samples.	Percentages.		
		Genuine.	Adulterated	Doubtful.
Bulletin 48—1896 .....	98	67	28	5
" 95—1904 .....	10	60	40	0
" 137—1907 .....	30	97	0	3
" 184—1909 .....	150	65	21	14
" 236—1912 .....	151	84	9	7

The results of previous work on ginger have been synoptically in Bulletin 184, from which the following is reprinted:—

‘The usual recognized adulteration of ginger consists in the substitution of cheaper materials (flour, starch, &c.) or in the use of exhausted rhizomes, i.e., stock from which the valuable principles have been more or less completely removed by washing. The examinations which form the basis for reports above referred to, have regard primarily to the detection of adulteration as described. But each report contains an account of more or less investigatory work, undertaken in the desire to put on record such data regarding ginger as should, at some future time, enable us to recommend the adoption of a definition of ginger, based upon its physical and chemical constants, and comprehensive enough to warrant its being made legal, under Section 26 of the Adulteration Act.

'A definition of ginger recommended by the United States Food Standards Committee, is as follows:—Ginger is the washed and dried or decorticated and dried, rhizome of *Zingiber Zingiber* (L) Karst., and contains not less than forty-two (42) per cent of starch, not more than eight (8) per cent of crude fibre, not more than six (6) per cent of total ash, not more than one (1) per cent of lime, and not more than three (3) per cent of ash insoluble in hydrochloric acid.'

'Limed ginger, bleached ginger, is whole ginger, coated with carbonate of lime, and contains not more than ten (10) per cent of ash, not more than four (4) per cent of carbonate of lime, and conforms in other respects to the standard for ginger.'

The British Pharmacopœia describes ginger as 'The scraped and dried rhizome of *Zingiber officinale*, Roscoe'; and gives the physical characters of the rhizome; but does not mention ground ginger, nor attempt any enumeration of chemical characters. (Edn. 1898). Squire's Companion (Edn. of 1908) gives the following tests for ginger:—The cells contain resin, (and) pyriform compressed starch grains 12 to 40 mcm. long, appearing linear when seen laterally, having the hilum at the smaller end; thin walled, polyzonal parenchymatous cells, and sometimes septate bast fibres with irregularly nodose extremities. When unbleached yields 3 to 4 per cent ash, and 5 per cent should not be exceeded. Not less than 1.5 per cent soluble ash. Extractive matter to cold water usually about 10 per cent and should not be less than 8.5 per cent; the extractive matter soluble in 90 per cent alcohol usually amounts to about 5 per cent and should not be materially below this figure.'

It is apparent, from these citations, that we have but a very vague and indefinite knowledge of ginger and it may be well to synoptize the main points brought out by the research work reported in the bulletins from this laboratory.

*Bulletin No. 40* contains photomicrographic reproductions of genuine and adulterated gingers, magnified 225 diameters, and seen under polarized light. The differences between ginger starch, and such starches as are commonly employed in adulteration of ginger, are well shown.

A synoptical table of published results in the chemical examination of ginger is furnished, and the following conclusion reached. 'An examination of these results shows that no single component of ginger is sufficiently constant in amount to make the identification of a sample as genuine possible by its means.'

Analytical numbers concerning 98 samples include moisture, cold water extractive, total ash; and in certain cases, petroleum ether and alcohol extractive, soluble ash, and alkalinity of ash.

Samples are only condemned as adulterated where foreign starch in amount exceeding 10 per cent is found.

*Bulletin No. 95* reports only 10 samples of ginger; giving moisture, cold water extractive and results of microscopic examination. One sample is condemned as containing wheat starch. Three others are called in question as giving only 14.1, 15.3, and 14.9 per cent extractive to cold water. These probably contain exhausted ginger, since similar extraction of genuine samples afforded nearly or quite 20 per cent of extractive. But it would be safer to describe these samples as 'doubtfully genuine' than as adulterated.

The details for cold water extraction of ginger are given (pp. 24 and 25), and the analyst adds:—'I have not met with an authenticated sample of ginger which gave less than 19 per cent of extractive to cold water, when treated as described.'

*Bulletin No. 137* reports upon 30 samples, of which 29 appear to be genuine, as judged by microscopic characters, and the cold water extractive, carried out by the process described above. Extraction amounts to above 20 per cent by weight on the dry ginger, in most samples, and in several reaches 24 per cent.

A consideration of all work recorded for ginger leads to the conclusion that microscopic examination and determination of cold water extractive are quite the most valuable tests that can be applied to the ground ginger of commerce. Deter-

nimation of ash is rendered comparatively valueless on account of the variability in methods of preparing ginger for the market. The rhizome may be merely washed, or it may be scraped, or decorticated or limed; and ground ginger may result from the grinding of rhizomes prepared in any or all of these ways. The total ash of 64 samples of ginger, believed to be genuine, reported in Bulletin 48, varies from 3.60 per cent to 7.14 per cent.

The ash of ginger consists partly of alkaline carbonates, which are soluble in water; partly of earthy carbonates, sulphates, and phosphates, insoluble in water but easily dissolved by hydrochloric acid, and partly of silicates and sand, insoluble in acid. Extraction of the ginger with water (which is one of the commonest forms of adulteration) has the effect of greatly reducing the amount of soluble ash, yielded by the sample, as shown in the following table:—

Number of Sample.	Effect of Water Extraction of Ginger upon the amount and character of the ash.					
	Before Extraction.			After Extraction.		
	Total.	Water Soluble.	Ratio.	Total.	Water Soluble.	Ratio.
37584 .....	5.42	2.18	0.40	3.14	0.65	0.21
37587 .....	4.65	1.98	0.42	2.25	0.30	0.13
39458 .....	4.59	2.38	0.52	1.38	0.24	0.18
39464 .....	3.63	1.86	0.51	0.98	0.15	0.15

A study of these results shows that the total ash is much reduced by previous extraction, as might be expected; and nearly 70 per cent of the diminution in amount is due to a reduction in water soluble ash.

Number of Sample.	Effect of Water Extraction of Ginger upon the amount and character of the ash.		
	Total ash reduced.	Soluble ash reduced.	Ratio p.c.
37584 .....	2.28	1.53	69
37587 .....	2.40	1.68	70
39458 .....	3.21	2.14	67
39464 .....	2.65	1.71	65

The samples of ginger upon which this work was done appear to be genuine, as evidenced by the microscopic examination, the cold water extractive, and other characters.

The presence of foreign starches or of flour in ground ginger will naturally reduce the total ash, since the normal ash of flour is less than one-half of one per cent, and that of starch practically nil. The ratio of soluble to total ash will be but little affected by addition of starch to a normal ginger.

In the absence of legal recognition of the value of this ratio in discriminating between normal and exhausted ginger, I am unable to make use of it in judging the genuineness of the samples now reported; but I have noted all cases where the ratio falls beyond the limits 0.40 to 0.70, as '*abnormal*.' When the total ash exceeds 6 per cent I have noted '*ash high*'; when below 3 per cent I have noted '*ash low*.' These terms cannot be regarded as having legal value in establishing the character of the article.

Of course the amount of extractive to cold water will be affected by the method of carrying out the extraction. This is described in Bulletin No. 95, p. 24, as it was employed by me in the work recorded in Bulletins 95 and 137. It involved the use of a mechanical shaker and centrifuge, and genuine gingers yielded about 30 per cent of extractive. The cold water extraction, as now reported, has been made by treating 5 grammes of the sample with 250 cc. of water, in a glass flask, which is shaken by hand at intervals of half an hour during eight hours; allowed to stand over night when an aliquot part by volume of the solution is evaporated in platinum to constant weight. This method is less effective in exhausting the ginger, but has the advantage of being available in laboratories not equipped with the mechanical devices required for carrying out the first method described. The normal extractive, by this method, appears to be about 15 or 16 per cent of the weight of the ginger (dry).

It is interesting to note that the low extractive recorded in the accompanying table, for certain samples, is usually correlated to the presence of foreign starchy matters. Where a low extractive is not explained by presence of foreign starch, the only explanation available would seem to be the previous extraction of the rhizome.

The requirements of the British Pharmacopoeia in the matter of extractive would appear to be entirely too low.

I have not seen any investigatory work on ginger since 1909, which materially alters the conclusions above recorded.

The cold water extractive in the samples now reported, has been made by the same method used in Bulletin 184, and normal samples should yield about 16 per cent of extractive, calculated upon the dry material.

Six samples of the present collection are found to contain foreign starch, and are therefore adulterated under the Act (Sec. 3a).

Sixteen other samples contain less than 14 per cent of extractive to cold water. These must be judged to contain more or less of exhausted ginger, if we apply the results of investigatory work recorded on the preceding pages. In the absence of a legal standard for cold water extractive, I am unable to pronounce them adulterated under the terms of the Act; but they cannot be regarded as of less than doubtful quality. Eight of these samples yield less than 12 per cent to cold water, thereby indicating a very considerable admixture of exhausted rhizomes.

I beg to recommend publication of this report as Bulletin No. 236.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,

*Chief Analyst.*



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

## DISTRICT OF NOVA SCOTIA—

1911.								
Oct. 16	Ground Ginger.	46701	D. C. Mulhall, Liverpool, N.S.	1 lb.	7	Nat. Drug & Chem. Co.	Manufacturers.	"Sovereign" Brand.
" 17	" "	46702	Hendry Ltd., Liverpool, N.S.	1 "	8	W. H. Schwartz & Sons, Halifax, N.S.	" "	Labelled Pure.
" 25	" "	46703	Nat. Drug & Chem. Co., Halifax, N.S.	1 "	8	Vendors .....	" "	"Sovereign" Brand.
" 25	" "	46704	J. Frank Crowe Co., Ltd., Halifax, N.S.	1 "	7	W. H. Schwartz & Sons, Halifax.	Manufacturers.	Peerless Brand Pure.
" 25	" "	46705	Bauld Bros., Ltd., Halifax, N.S.	1 "	6	" "	" "	"
" 26	" "	46706	Jno. P. Mott & Co., Halifax, N.S.	1 "	nil.	Vendors .....	" "	Labelled Pure.
" 27	" "	46707	Wentzells Ltd., Halifax, N.S.	1 "	7	Jno. P. Mott & Co., Halifax.	Manufacturers.	"
Nov. 14	" "	46708	B. H. Dodge, Kentville, N.S.	1 "	8	G. E. Barbour, St. John, N.B.	" "	"Acorn" Brand.
" 17	" "	46709	B. O. Bishop, Dartmouth, N.S.	1 "	8	Jno. P. Mott & Co., Halifax.	" "	Labelled Pure.
" 20	" "	46710	W. H. Schwartz & Sons, Halifax, N.S.	1 "	6	Vendors .....	" "	"

## DISTRICT OF PRINCE EDWARD ISLAND—

Oct. 16	Ground Ginger.	46126	John McKenna, Charlottetown, P.E.I.	1 lb.	10	W. H. Schwartz & Sons, Halifax.		
" 17	" "	46127	E. Toombs, Charlottetown, P.E.I.	1 "	10		N. Rattenbury, Charlottetown, P.E.I.	
" 18	" "	46128	M. Duffy, Charlottetown, P.E.I.	1 "	10	Unknown .....		
" 18	" "	46129	Stewart & Son, Charlottetown, P.E.I.	1 "	30	Maritime Spice & Coffee Mills, St. John, N.B.		
" 19	" "	46130	Coffin & Co., Charlottetown, P.E.I.	1 "	18	G. E. Barbour, St. John, N.B.		
" 19	" "	46131	L. A. Hazard, Charlottetown, P.E.I.	1 "	10	McCready & Sons, Ltd., St. John, N.B.		
" 20	" "	46132	J. A. Hynes, Kensington, P.E.I.	1 "	10	Crown Spice Mills.		

## GROUND GINGER.

RESULTS OF ANALYSIS.					Microscopical Examination.	No. of Sample.	Remarks and opinion of the Chief Analyst.
Ash.		Moisture.	Cold water Extractive.				
Total.	Water soluble.		Normal	Calculated to dry Ginger.			

## R. J. WAUGH, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.				
3.54	2.34	1.20	9.95	16.30	18.10	Ginger Starch and tissues	46701	Genuine.	
5.76	2.44	3.32	9.17	15.10	16.62	"	46702	"	
3.62	2.42	1.20	10.02	15.00	17.34	"	46703	"	
4.74	2.50	2.24	10.00	14.20	15.77	"	46704	"	
5.12	1.86	3.25	10.35	17.50	19.51	"	46705	"	
3.92	1.90	2.02	9.35	14.00	15.44	"	46706	"	
3.54	2.80	0.74	9.02	14.10	15.49	"	46707	"	
4.20	2.26	1.94	9.12	15.70	17.27	"	46708	"	
6.00	3.10	2.90	10.05	14.60	16.23	"	46709	"	
4.78	2.28	2.50	10.27	14.30	15.93	"	46710	"	

## WM. A. WEEKS, INSPECTOR.

5.60	2.92	2.68	9.88	15.60	17.19	Ginger Starch and tissues	46126	Genuine.	
7.26	3.46	3.80	9.92	13.65	15.26	"	46127	"	Ash high.
1.82	1.42	0.40	9.31	10.95	12.07	Ginger Starch and tissues with maize starch.	46128	Adulterated.	
3.42	2.44	0.98	10.54	17.45	19.49	Ginger Starch and tissues	46129	Genuine.	
4.10	2.16	1.94	9.46	16.60	18.33	"	46130	"	
3.98	2.00	1.98	8.00	17.20	18.69	"	46131	"	
8.84	4.12	4.72	9.00	15.90	17.47	"	46132	"	Ash high.



## BULLETIN No 236—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.		Inspector's Report. (Is not an expression of Opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

## DISTRICT OF PRINCE EDWARD ISLAND—

1911.								
Oct. 21	Ground Ginger.	46133	D. McKenzie & Co., Kensington, P.E.I.	4 lb.	10	G. E. Barbour & Co., St. John, N.B.		
" 21	"	46134	James Kennedy, Kensington, P.E.I.	4 "	10	Dearborn & Co., St. John, N.B.		
" 21	"	46135	McLellan & Co., Ltd., Semmerside, P.E.I.	4 "	10	Nat. Drug Co., Halifax, N.S.		

## DISTRICT OF NEW BRUNSWICK—

Oct. 12	Ground Ginger.	45560	Dearborn & Co., St. John, N.B.	4 lb.	10	Vendors		
" 12	"	45561	Geo. E. Barbour, Co., Ltd., St. John, N.B.	4 "	10	"		
" 20	"	45562	H. S. Francis, St. John, N.B.	4 "	10	C. H. Cochrane, Ottawa, Ont.		
" 20	"	45563	M. E. Grass, St. John, N.B.	4 "	10	White Swan Co., Ltd., Toronto.		
Nov. 3	"	45564	H. E. Hill, St. Stephen, N.B.	4 "	10	Wright Crossley & Co., Liverpool, Eng.		
" 7	"	45565	The Yerca Grocery Co., Fredericton, N.B.	4 "	10	Dearborn & Co., St. John, N.B.		
" 10	"	45566	H. N. Dickinson, Perth, N.B.	4 "	10	Geo. E. Barbour, Co., Ltd., St. John, N.B.		
" 14	"	45567	Sussex Mercantile Co., Ltd., Sussex, N.B.	4 "	10	C. H. Cochrane & Co., Ottawa.		
" 16	"	45568	S. A. Russell, Newcastle, N.B.	4 "	10		H. W. Cole, Ltd., St. John, N.B.	Thistle Brand.
" 17	"	45569	S. Holdengraber, Bathurst, N.B.	4 "	10	Unknown	Unknown	

## DISTRICT OF QUEBEC—

Oct. 11	Ground Ginger.	37318	J. B. Giroux, 385 Rue St. Joseph, Quebec.	4 lb.	30	Carton Signy.	Mfrs.	
" 12	"	37319	Cantin & Frere, 271 Rue St. Joseph, Que.	4 "	5	Gillett & Co., Toronto.	Unknown	

## GROUND GINGER.

RESULTS OF ANALYSIS.					Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.	
Ash.			Moisture.	Cold Water Extractive.				
Total.	Water Soluble.	Insoluble in Water.		Normal.				Calculated to dry ginger.

WM. A. WEEKS, INSPECTOR—*Concluded.*

p.c.	p.c.	p.c.	p.c.	p.c.	p.c.			
4.62	2.28	2.34	9.25	15.70	17.35	Ginger Starch and tissues	46133	Genuine
4.60	1.98	2.62	8.67	13.20	14.46	"	46134	Extractive low.
4.58	1.90	2.68	8.90	11.17	12.57	"	46135	"

J. C. FERGUSON, INSPECTOR.

3.22	2.24	0.98	8.97	17.10	18.78	Ginger, starch and tissues	45560	Genuine.
3.70	2.46	1.24	8.80	18.20	19.95	"	45561	"
4.24	2.16	2.08	9.15	16.10	17.72	"	45562	"
3.60	2.34	1.26	8.50	16.30	17.81	"	45563	"
6.48	3.49	3.08	8.72	12.50	13.69	"	45564	Extractive low.
4.84	2.20	2.64	9.75	13.02	14.42	"	45565	"
5.74	3.00	2.74	10.75	17.20	19.27	"	45566	Genuine.
4.40	2.20	2.20	9.97	15.70	17.43	"	45567	"
5.06	3.46	2.60	9.72	15.50	17.16	"	45568	"
3.24	2.12	1.12	10.40	15.40	17.18	"	45569	"

F. X. W. E. BELAND, INSPECTOR.

3.58	2.60	0.98	9.75	15.50	17.17	Ginger, starch and tissues	37318	Genuine.
3.40	1.50	1.90	10.00	11.55	12.83	"	37319	Extractive low. Ash low.

## BULLETIN No. 236—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

## DISTRICT OF QUEBEC—

1911.								
Oct. 13	Ground Ginger.	37320	G. Gingras, 268 1/2 lb. Rue du Roi, Q.	5	J. J. Duffy, Montreal.	J. B. Renaud, Que.		
" 13	"	37321	" " " 1/2 "	10	Unknown.	"		
" 16	"	37322	J. E. Gregoire, 1/2 " 128 Rue du Pont, Que.	8	Pure Gold Co., Toronto.	Mrs. "		
" 17	"	37323	W. Cantin, 133 1/2 " Rue du Pont, Q.	10	Unknown.	Unknown.		
" 19	"	37324	A. Pichette, 176 1/2 " Rue D'Orchester, Que.	10	J. J. Duffy, Montreal.	N. Turcotte & Cie.		
" 19	"	37325	Elzear Gagnon, 1/2 " 138 Rue D'Orchester, Que.	5	Marcothe & Leblanc.	Bedard & Frere.		
" 19	"	37326	Jd. Marier, 136 1/2 " Rue D'Orchester, Que.	5	S. H. Ewing & Son, Montreal.	Turcotte & Frere.		
" 20	"	37327	W. Pamplon, 120 1/2 " Rue D'Orchester, Que.	6	Unknown.	N. Turcotte & Cie.		

## DISTRICT OF ST. HYACINTHE—

Oct. 10	Ground ginger.	1171	P. Larochelle, 1/2 lb. Farnham, P.Q.	10		S. H. Ewing & Son, Montreal.		
" 26	"	1172	Nelson Mitchell & Co., Granby.	9	Unknown.	Unknown.		
Nov. 6	"	1173	L. H. Oliver, 1/2 " Sherbrooke.	10	The F. F. Dalley Co., Ltd., Hamilton.		Labelled pure ground ginger.	
" 8	"	1174	M. J. Smith, 1/2 " Megantic.	10		W. Galbraith & Co., Montreal.		
" 8	"	1175	D. P. Matheson & Co., Megantic.	10	Pure Food Co., Ltd., Toronto.			
" 9	"	1176	D. W. Stenson, 1/2 " Sherbrooke.	12	Pure Gold Mfg. Co., Ltd., Toronto.			
" 9	"	1177	J. W. Paige, 1/2 " Coaticook.	8	White Swan Spices and Cereals Ltd., Toronto.			
" 22	"	1178	J. O. Peloquin, 1/2 " Sorel.	10	Unknown.	Unknown.		
" 23	"	1179	J. Chaut. St. Hyacinthe.	10				
" 23	"	1180	J. B. J. Phaneuf, 1/2 " St. Hyacinthe.	10		Eugene Benoit, St. Hyacinthe.		
" 21	"	1190	J. O. I. Dutreese, 1/2 " Nicolet.	10		Lacaille Gendreau & Cie, Montreal.		

## GROUND GINGER.

RESULTS OF ANALYSIS.					Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
Total.	Ash.		Moisture.	Cold Water Extractive.			
	Water soluble.	Insoluble in water.			Normal.		
				Calculated to dry ginger.			

F. X. W. E. BELAND, INSPECTOR - *Concluded.*

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.			
2.90	1.49	1.41	10.12	15.20	16.90	Ginger starch and tissues	37320	Genuine. Ash low.
4.94	2.40	2.54	9.72	14.70	16.28	"	37321	"
5.18	2.48	2.70	10.12	14.70	16.36	"	37322	"
2.67	1.39	1.28	9.70	10.86	12.02	Ginger, starch and tissues, with foreign starch, (probably wheat).	37323	Adulterated.
3.04	1.56	1.48	9.92	13.47	14.95	Ginger, starch and tissues	37324	Extractive low.
6.59	1.20	5.39	9.37	14.10	15.55	"	37325	Soluble ash low.
3.14	1.78	1.36	10.75	14.00	15.69	"	37326	Genuine.
2.82	1.14	1.68	10.90	9.70	10.88	"	37327	Extractive low. Ash low.

## J. C. ROULEAU, INSPECTOR.

4.10	2.62	1.48	8.10	17.40	18.93	Ginger starch and tissues.	1171	Genuine.
3.66	2.55	1.11	9.40	16.20	17.88	"	1172	"
3.58	2.18	1.40	8.28	15.50	16.78	"	1173	"
3.26	1.80	1.46	8.87	14.10	15.47	"	1174	"
4.10	1.80	2.30	10.90	15.20	17.06	"	1175	"
3.60	2.14	1.45	9.37	16.90	18.64	"	1176	"
2.60	0.86	1.74	8.25	15.20	16.56	"	1177	Ash low.
3.40	1.60	1.80	8.12	15.40	16.76	"	1178	Genuine.
4.44	3.04	1.40	9.42	18.50	20.42	"	1179	"
3.50	1.36	2.14	9.57	17.20	19.02	"	1180	"
3.14	1.40	1.74	8.28	9.80	10.68	Ginger starch and tissues and maize starch.	1190	Adulterated.

## BULLETIN NO. 236—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

## DISTRICT OF MONTREAL—

1911.								
Oct. 19	Ground ginger.	40931	L. L. Desaulnier, 437 Notre Dame St. West, Montreal.	1 lb.	10	Unknown.		
" 19	"	40932	J. A. Villeneuve, 185 Ottawa St., Montreal.	1/2 "	10	"		
" 20	"	40933	J. Deneau, 53 Jurons St., Montreal.	53 1/2 "	10	S. H. Ewing & Son, Montreal.		
" 20	"	40934	J. L. Steele, 138 Dorchester St., Montreal.	138 1/2 "	10			
" 20	"	40935	O. Murtel, 166 Dorchester St., Montreal.	166 1/2 "	10	J. V. Boudrais, Montreal.		
" 20	"	40936	B. Lipson, 309 St. George St., Montreal.	309 1/2 "	10	S. H. Ewing & Son, Montreal.		
" 23	"	40937	J. S. Belisle, 129 Wellington St., Montreal.	129 1/2 "	10			Sold as pure.
" 24	"	40938	Mde. N. Fournelle, St. Agathe de Monts, P.Q.	1 "	10		Watt & Godin, Montreal.	
" 27	"	40939	E. Dufour, Joliette, P.Q.	1 "	10			
" 27	"	40940	J. A. Lavallee, Joliette, P.Q.	1 "	10			

## DISTRICT OF OTTAWA

Oct. 10	Ground ginger.	49041	J. H. Edwards, Carleton Place	1 lb.	10	Gorman Eckert & Co., Ltd., London, Ont.		
" 13	"	49042	Jas. L. P. Sanders, Kemptville.	1 "	10	C. H. Cochrane & Co., Ottawa.		Pure Jamaica ginger.
" 16	"	49043	Geo. Hlingworth, Almonte.	1 "	10		Robertson, Nicolle & Co., Smith Falls.	
" 20	"	49044	A. F. Dev & Co., Finch.	1 "	8	Unknown.	Unknown.	
" 20	"	49045	Fulton Bros., Chesterville.	1 "	8		Birk's Corner, Montreal.	
" 25	"	49046	McDonald Bros., Ottawa.	1 "	10	C. H. Cochrane & Co., Ottawa.		

## GROUND GINGER.

RESULTS OF ANALYSIS.						Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
Total.	Ash.		Moisture.	Cold Water Extractive.				
	Water solu- ble.	Insoluble in water.		Normal.	Calculated to dry gin- ger.			

## J. J. COSTIGAN, INSPECTOR.

p.c.	p.c.	p.c.	p.c.	p.c.	p.c.				
3.42	2.46	0.96	8.87	15.50	17.00	Ginger starch and tissues.	40931	Genuine.	
1.96	1.03	0.93	9.00	17.00	18.68	Ginger starch and tissues, with a little maize starch.	40932	Ash low.	
4.80	2.90	1.90	8.57	15.50	16.95	Ginger starch and tissues.	40933	Genuine.	
5.96	0.92	5.04	8.87	10.67	11.70	Ginger starch and tissues and maize starch.	40934	Adulterated.	
3.12	1.80	1.32	8.92	14.50	15.92	Ginger starch and tissues.	40935	Genuine.	
3.44	1.80	1.64	8.90	15.90	17.45	"	40936	"	
3.66	1.84	1.82	8.82	18.80	20.61	"	40937	"	
12.64	6.08	6.56	8.79	16.80	18.41	"	40938	Ash very high.	
3.61	1.59	2.02	8.00	10.90	11.83	"	40939	Extractive low.	
4.56	1.96	2.60	8.85	14.10	15.46	"	40940	Genuine.	

## J. A. RICKEY, INSPECTOR.

5.04	2.86	2.18	10.27	17.30	19.28	Ginger starch and tissues.	49041	Genuine	
3.64	2.22	1.42	8.87	17.30	18.98	"	49042	"	
3.30	1.42	1.88	10.12	10.95	12.18	"	49043	Extractive low. Ash low.	
3.42	2.30	1.12	9.47	15.20	16.97	"	49044	Genuine	
4.10	2.88	1.22	9.52	17.50	19.34	"	49045	"	
3.76	2.10	1.66	9.67	15.00	16.60	"	49046	"	



## BULLETIN No. 236--

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
						Manufacturer.	Furnisher.	
DISTRICT OF OTTAWA—								
1911								
Oct. 25	Ground Ginger.	49047	A. Moreland, Bank st., Ottawa.	1 lb.	10	C. H. Cochrane & Co., Ottawa.		
" 25	"	49048	A. E. Rea & Co., Ltd., Ottawa.	" "	10	Heron & Leblanc, Montreal.		
" 25	"	49049	P. Lamoureux & Cie., Dalhousie st., Ottawa.	" "	10	Unknown	Provost & Allard, Ottawa.	
" 26	"	49050	F. A. Scott & Son., Wellington st., Ottawa.	" "	10	McLarens, Ltd., Toronto.		

## DISTRICT OF KINGSTON--

Nov. 1	Ground ginger.	48574	C. Saunders, Kingston.	1 lb.	10	Gorman Eckert, London.		
" 1	"	48575	Anderson Bros., Kingston.	1 lb.	10	Unknown.		
" 1	"	48576	D. Couper, Kingston.	1 lb.	10	Pure Gold Co., Toronto.		
" 1	"	48577	Kelley Bros., Kingston.	1 lb.	15	"		
" 2	"	48578	D. B. Gage, Kingston.	1 lb.	10	Unknown.		
" 2	"	48579	J. T. Morris, Kingston.	1 lb.	7	Dalton Bros., Toronto.		
" 2	"	48580	G. A. Valteau, Kingston.	1 lb.	10		Robertson Nicolle Co., Kingston.	
" 2	"	48581	J. McCulla, Kingston.	1 lb.	10	Pure Gold Co., Toronto.		
" 2	"	48582	J. R. B. Gage, Kingston.	1 lb.	10		Fewick Hendry Co., Kingston.	
" 2	"	48583	J. Resden, Kingston.	1 lb.	10	Todhunter & Mitchell, Toronto.		

## DISTRICT OF TORONTO--

Oct. 16	Ground ginger.	47385	J. & R. Williams, Murray St., Hamilton.	1 lb.	10		R. Simpson & Co., Hamilton.	
" 18	"	47386	R. J. Hewson, Main St., Hamilton.	1 lb.	10		Unknown.	
" 20	"	47387	M. Weiss, Parliament St., Toronto.	341 lb.	10			

## GROUND GINGER.

RESULTS OF ANALYSIS.						Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
Ash.			Cold water Extractive.					
Total.	Water soluble.	Insoluble in water.	Moisture.	Normal.	Calculated to dry ginger.			

J. A. RICKEY, INSPECTOR - *Concluded.*

p.c.	p.c.	p.c.	p.c.	p.c.	p.c.			
4.32	2.56	1.76	9.82	15.20	16.87	Ginger starch and tissues	49047	Genuine.
2.60	1.28	1.32	9.20	13.50	14.86	" "	49048	Extractive and ash low.
5.00	2.80	2.20	9.50	15.60	17.23	" "	49049	Genuine.
4.10	2.10	2.00	8.72	16.00	17.52	" "	49050	"

## JAS. HOGAN, INSPECTOR.

3.56	2.44	1.12	9.12	17.30	19.03	Ginger starch and tissues	48574	Genuine.
4.68	2.40	2.28	9.27	15.70	17.30	" "	48575	"
4.26	2.10	2.16	10.12	16.50	18.39	" "	48576	"
3.80	2.50	1.30	9.67	16.40	18.15	" "	48577	"
4.94	3.52	1.42	9.27	16.60	18.28	" "	48578	"
4.40	1.96	2.44	9.57	15.80	17.47	" "	48579	"
2.34	1.10	1.24	9.80	10.60	11.75	" "	48580	Extractive low. Ash low.
5.66	2.96	2.70	9.5	14.10	15.55	" "	48581	Genuine.
3.60	2.05	1.55	9.85	15.90	17.63	" "	48582	"
3.48	2.00	1.48	10.90	15.50	17.39	" "	48583	"

## H. J. DAGER, INSPECTOR.

2.06	1.17	0.89	9.60	9.70	10.73	Ginger starch and tissues and maize starch.	47345	Adulterated.
4.76	1.60	3.16	9.87	12.02	13.33	Ginger starch and tissues	47386	Extractive low.
2.30	1.21	1.09	9.60	10.20	11.29	Ginger starch and tissues and maize starch.	47387	Adulterated.

## BULLETIN No. 236—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	
DISTRICT OF TORONTO—								
1911.								
Oct.	20 Ground Ginger.	47388	W. J. Street, 2014 Parliament St. Toronto.	1 lb.	8		The White Swan Cereals Co., Ltd., Toronto.	
"	23 "	47389	M. Robinson & Son, Orangeville.	1 "	10		Unknown.	
"	24 "	47390	Lloyd Bros., Owen Sound.	1 "	10		"	
"	26 "	47391	Secord Bros., Meaford.	1 "	10		McLauchlan Sons & Co., Owen Sound.	
"	26 "	47392	J. Mitchell, Col. lingwood.	1 "	10		Young Windfield, Ltd. Hamilton.	
Nov.	2 "	47393	R. J. Goldring, Whitby.	1 "	10		Eby Blain & Co., Ltd., Toronto.	
"	2 "	47394	J. D. Carroeth, Oshawa.	1 "	10		J. M. Lowes & Co., Toronto.	

## DISTRICT OF WINDSOR—

Oct.	17 Ground ginger.	47817	Orendorf Bros., Ridge-town.	3 pgs.	30	L. X. L. Spice & Coffee Co., London.		Labelled 'Sweetheart' pure ginger.
"	18 "	47826	B. C. Watson, Leamington.	6 oz.	15	Hamilton Spice & Coffee Co., Hamilton.		
"	18 "	47827	J. Vandour & Son, Leaming-ton.	6 "	15	Unknown.		
"	18 "	47830	B. & W. McIn-tyre, Leam-ington.	6 "	15	"		
"	18 "	47832	Geo. J. Sawyer, Leamington.	6 "	15	"		
"	18 "	47836	Robinson Bros., Leamington.	6 "	15	Todhunter & Mitchell, To-ronto.		
"	19 "	47840	A. Raines, Essex.	6 "	15	McLaren's Hamilton.		
"	19 "	47842	O. H. Bricker, Essex.	6 "	15	F. F. Dalley, Hamilton.		
"	19 "	47844	A. Detwiler, Es-sex.	4 "	10		J. F. Smyth & Co., Wind-sor.	
"	19 "	47846	A. H. Scarff, Es-sex.	6 "	15	Todhunter & Mitchell, To-ronto.		

## GROUND GINGER.

RESULTS OF ANALYSIS.						Microscopical Examination.	No. of Sample.	Remarks and opinion of the Chief Analyst.		
Ash.		Cold water Extractive.	Moisture.	Normal.	Calculated to dry Ginger.					
Total.	Water soluble. Insoluble in water.									

H. J. DAGER, INSPECTOR—*Concluded.*

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.				
3.62	2.30	1.32	9.50	14.60	16.13	Ginger starch and tissues	47388	Genuine.	
3.54	1.60	1.94	9.50	10.40	11.49	" "	47389	Extractive low.	
3.24	2.26	0.98	9.17	17.50	19.28	" "	47390	Genuine.	
3.56	1.46	2.10	9.40	9.45	10.43	" "	47391	Extractive low.	
5.00	2.20	2.80	9.52	15.00	16.58	" "	47392	Genuine.	
3.90	2.00	1.90	9.75	13.87	15.35	" "	47393		
5.56	2.76	2.80	8.97	15.00	16.47	" "	47394		

J. NO. TALBOT, INSPECTOR.

6.04	3.24	2.80	10.55	17.00	19.00	Ginger starch and tissues	47817	Genuine.	
2.66	0.90	1.76	8.55	16.70	18.25	" "	47826	Genuine.	Ash low.
5.08	2.50	2.58	9.40	15.70	17.33	" "	47827		
4.32	2.88	1.44	9.25	16.50	18.18	" "	47830		
4.53	2.27	2.36	9.60	14.70	16.26	" "	47832		
4.14	3.54	0.60	8.80	17.20	18.85	" "	47836		
4.00	2.56	1.44	9.62	15.20	16.81	" "	47840		
4.70	3.30	1.40	9.40	14.00	15.45	" "	47842		
5.20	2.00	3.20	9.65	14.20	15.71	" "	47844		
3.50	2.08	1.42	9.65	17.30	19.14	" "	47846		

## BULLETIN No. 236—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	
DISTRICT OF MANITOBA -								
1911								
Oct. 23	Ground Ginger.	47438	Blue Ribbon, Ltd., Winnipeg.	lb.	10	Vendors	Blue Ribbon "Brand."	
" 23	"	47439	Campbell Bros. Wilson, Winnipeg.	"	ml.	"	Royal Shield	"
" 23	"	47440	The Gold Standard and Mfg. Co., Winnipeg.	"	"	"	Gold Standard	"
" 24	"	47441	The White Star Mfg. Co., Winnipeg.	"	"	"	White Star	"
"	"	47442	The Dyson Co., Winnipeg.	"	"	"	Red Cross	"
" 25	"	47443	Mikush & Bierbauer, Winnipeg.	"	10	The Dyson Co., Winnipeg.	Unknown	"
" 25	"	47444	Moffett & Douglas, Winnipeg.	"	10	The Pure Gold Mfg. Co., Ltd., Toronto	Regal (Pure Ginger.)	"
" 25	"	47445	Western Mercantile Co., Winnipeg.	"	10	Blue Ribbon Co., Winnipeg.	Blue Ribbon "Brand."	"
" 25	"	47446	A. J. Kentball, Winnipeg.	"	15	Gorman Eckert & Co., Ltd., London and Winnipeg.	Forest City	"
" 26	"	47447	W. H. Wright, Winnipeg.	"	20	Foley Bros., Larson Co., Winnipeg.	Premier (Pure.)	"

## DISTRICT OF CALGARY—

Nov. 8	Ground ginger.	44041	LePage Bros., Medicine Hat.	3 pgs	30	Gold Standard Mfg. Co., Winnipeg.	
" 8	"	44042	L. B. Cochran, Medicine Hat.	4 lb	10		
" 9	"	44043	H. W. Ireland & Co., Medicine Hat.	3 pgs	30		
" 9	"	44044	Spencer & Todd, Medicine Hat.	3	30	Balfour, Smye & Co., Hamilton.	
" 9	"	44045	Crewitt & Armstrong, Medicine Hat.	4 lb	10	Medicine Hat Grocery Co., Medicine Hat.	
" 15	"	44046	L. T. Mew, Calgary.	3 tins	20	Imperial Cocoa and Spice Co., Hamilton.	
" 15	"	7	Georgeson & Co., Ltd., Calgary.	3	25	Vendors	

## GROUND GINGER.

RESULTS OF ANALYSIS.						Microscopical Examination.	No. of Sample.	Remarks and opinion of the Chief Analyst.			
Ash.		Moisture.	Cold water Extractive.		Calculated to dry Ginger.						
Total.	Water soluble.		Normal.								
Insoluble in water.											

## A. C. LARIVIÈRE, INSPECTOR.

p.c.	p.c.	p.c.	p.c.	p.c.	p.c.			
4.00	2.68	1.32	8.37	15.40	16.80	Ginger, Starch and tissues	47438	Genuine.
7.40	2.44	4.96	1.25	17.00	17.31	"	.. 47439	Genuine, but very dry. Ash high.
4.68	1.94	2.74	8.37	14.60	15.93	"	.. 47440	Genuine.
3.44	2.34	1.10	7.80	18.40	19.95	"	.. 47441	"
2.20	1.40	0.80	7.15	17.70	19.06	"	.. 47442	" Ash low.
3.80	1.80	2.00	5.70	14.80	15.70	"	.. 47443	"
3.68	2.40	1.28	8.80	17.50	19.18	"	.. 47444	"
3.90	2.50	1.40	8.27	17.70	19.20	"	.. 47445	"
3.64	1.84	1.80	9.00	14.20	15.60	"	.. 47446	"
3.30	1.80	1.50	8.72	15.80	17.30	"	.. 47447	"

## R. W. FLETCHER, INSPECTOR.

5.88	1.96	3.92	9.57	14.60	16.14	Ginger starch and tissues.	44041	Genuine.
5.06	2.34	2.72	9.30	15.10	16.15	"	.. 44042	"
4.46	1.88	2.58	9.75	14.00	15.51	"	.. 44043	"
5.17	2.21	2.96	10.75	13.20	14.77	"	.. 44044	Extractive low.
4.28	1.90	2.38	9.25	14.30	15.70	"	.. 44045	Genuine.
5.40	4.20	1.20	8.75	16.90	18.52	"	.. 44046	"
5.30	2.00	3.30	8.75	14.20	15.56	"	.. 44047	"



## BULLETIN No. 236—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer, Furnisher.	

## DISTRICT OF CALGARY—

1911.							
Oct. 15	Ground Ginger.	44048	G. F. and J. Galt, Calgary.	3 tins.	30	Blue Ribbon Mfg. Co., Ltd., Winnipeg.	
" 15	"	44049	Campbell, Wilson & Horne, Calgary.	3 "	30	Campbell Wilson, Ltd., Winnipeg.	
" 15	"	44050	Georgeson & Co., Ltd., Calgary.	3 "	30	Vendors	

## DISTRICT OF NELSON—

Oct. 19	Ground ginger.	48427	Crow's Nest Trading Co., Fernie.	1 lb.	10	Dalton Bros., Toronto.	
" 19	"	48428	"	1 "	10	White Star Mfg. Co., Winnipeg.	
" 19	"	48435	Trites Wood Co., Fernie.	1 "	10	Gold Standard Mfg. Co., Winnipeg.	
" 19	"	48439	Fernie Co-op. Store, Fernie.	1 "	5	W. Braid, Vancouver.	
" 19	"	48440	"	1 "	10	Georgeson & Co., Calgary.	
" 27	"	48450	W. R. Braden & Son, Rossland.	1 "	10	Kelly, Douglas & Co., Vancouver.	
" 27	"	48452	Union Co-op. Assn., Rossland.	1 "	10	Georgeson & Co., Calgary.	
" 27	"	48463	Hunter Bros., Rossland.	1 tin.	15	Empress Mfg. Co., Vancouver.	
" 27	"	48464	"	1 lb.	5	"	
" 27	"	48481	A. S. Horswill, Nelson.	1 "	10	Oriental Mills, Vancouver.	

## DISTRICT OF VANCOUVER—

Oct. 27	Ground Ginger.	38255	London Grocery Co., City Branch, Vancouver.	1 lb.	10	Kelly Douglas, Vancouver.	
" 27	"	38256	Walford & Roney, Granville St., Vancouver.	1 "	10	Empress Mfg. Co., Vancouver.	
" 27	"	38257	J. F. May, Granville St., Vancouver.	1 "	15	W. Braid & Co., Vancouver.	Guaranteed absolutely pure.
" 27	"	38258	City Grocery, Davie St., Vancouver.	1 "	10	"	

## GROUND GINGER.

RESULTS OF ANALYSIS.							Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
Ash.		Moisture.	Cold Water Extractive.		Normal.	Calculated to dry ginger.			
Total.	Water soluble.								
Insoluble in water.									

R. W. FLETCHER, INSPECTOR—*Concluded.*

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.				
4.02	2.90	1.12	9.62	17.10	18.87	Ginger starch and tissues.	44048	Genuine.	
7.98	2.80	5.18	10.17	14.60	16.28	" "	44049	"	Ash high.
5.52	2.04	3.48	9.15	14.00	15.40	" "	44050	"	

## THOS. PARKER, INSPECTOR.

2.26	1.34	0.92	10.25	17.00	18.94	Ginger starch and tissues.	48427	Genuine.	Ash low.
7.70	2.60	5.10	9.75	16.00	17.12	" "	48428	"	Ash high.
7.14	2.66	4.48	8.77	14.80	16.22	" "	48435	"	"
6.68	3.74	2.94	10.50	16.00	17.87	" "	48439	"	
5.44	2.94	2.50	10.10	15.40	17.13	" "	48440	"	
4.58	2.20	2.38	7.00	15.80	16.98	" "	48450	"	
6.72	2.08	4.64	9.62	15.40	17.03	" "	48462	"	
4.14	2.12	2.02	8.80	17.00	18.64	" "	48463	"	
5.76	2.64	3.12	9.27	14.70	16.20	" "	48464	"	
6.20	3.36	2.94	9.90	12.52	13.88	" "	48481	Extractive low.	

## J. F. POWER, INSPECTOR.

3.76	2.24	1.52	8.35	15.70	17.15	Ginger starch and tissues.	38255	Genuine.	
6.20	2.10	4.10	8.30	14.70	16.03	" "	38256	"	
5.28	2.20	3.08	7.90	15.60	16.93	" "	38257	"	
5.14	1.40	3.74	7.00	14.40	15.48	" "	38258	"	

## BULLETIN No. 236—

Date of Collection.	Nature of Sample.	No. of sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

## DISTRICT OF VANCOUVER—

1911	Ground Ginger.							
Oct. 27	"	38259	Vancouver Grocery, Granville St., Vancouver.	lb.	10	Oriental Mills, Vancouver.		
" 31	"	38260	Edgett's Grocery, Hastings St., Vancouver.	"	10	Empress Mtg. Co., Vancouver.		
" 31	"	38261	Woodward's Dept. Stores, Ltd., Hastings St., Vancouver.	"	10	Wm. Braid & Co., Vancouver.		
" 31	"	38262	Dom. Grocery, Abbott St., Vancouver.	"	10		Kelly Douglas, Vancouver.	"Columbia" Brand.
" 31	"	38263	Foran Bros., Carral St., Vancouver.	"	10	Unknown.		
" 31	"	38264	F. Filion, Carral St., Vancouver.	"	10	Empress Mtg. Co., Vancouver.		

## DISTRICT OF VICTORIA—

Oct. 25	Ground Ginger.	47651	Windsor Grocery Co., Victoria.	lb.	10	Pioneer Coffee and Spice Mills, Ltd., Victoria, B.C.		Extra quality ginger.
" 25	"	47652	The West End Grocery Co., Ltd., Victoria.	"	10	Todd Hunter Mitchell & Co., Toronto, Ont.		
Nov. 9	"	47653	Copas & Young, Victoria.	"	10		W. H. Malkin & Co., Vancouver, B.C.	
" 9	"	47654	Wm. B. Hall, Victoria.	"	10	Pioneer Coffee and Spice Mills, Victoria, B.C.		
" 13	"	47655	Erskine & Co., Victoria.	"	15	Victoria Coffee and Spice Mills, Victoria, B.C.		
" 13	"	47656	F. E. Plummer, Victoria.	"	10		R. P. Rithet & Co., Victoria, B.C.	
" 15	"	47657	D. H. Ross & Co., Victoria.	"	10	Empress Mtg. Co., Vancouver, B.C.		
" 15	"	47658	Harrison & McDonald, Victoria.	"	10	"		
" 16	"	47659	E. G. Bailey, Victoria.	"	10	"		
" 16	"	47660	Acton Bros., Victoria.	"	10	W. A. Jameson Coffee Co., Victoria, B.C.		

## GROUND GINGER.

RESULTS OF ANALYSIS.					Microscopical Examination.	No. of Sample.	Remarks and opinion of the Chief Analyst.
Ash.			Moisture.	Cold water Extractive.			
Total.	Water soluble.	Insoluble in water.		Normal.			

J. F. POWER, INSPECTOR.—*Concluded.*

p.c.	p.c.	p.c.	p.c.	p.c.	p.c.			
7.14	3.06	3.08	8.17	16.10	17.52	Ginger starch and tissues	38259	Genuine. Ash high.
4.84	2.36	2.48	7.25	16.30	17.57	"	38260	"
4.16	2.00	2.16	6.25	14.50	15.46	"	38261	"
4.76	2.08	2.68	7.12	14.50	16.49	"	38262	"
4.94	2.54	2.40	7.75	15.10	16.37	"	38263	"
4.40	2.80	1.60	7.40	16.60	17.92	"	38264	"

## D. O'SULLIVAN, INSPECTOR.

3.60	2.42	1.18	7.45	16.20	17.50	Ginger starch and tissues	47651	Genuine.
5.24	2.30	2.94	7.92	14.20	15.42	"	47652	"
6.83	2.62	4.21	7.27	16.70	18.00	"	47653	"
3.58	2.04	1.54	7.62	16.00	17.31	"	47654	"
7.44	2.10	5.54	7.10	16.00	17.22	"	47655	" Ash high.
3.42	1.94	1.48	7.50	16.00	17.29	"	47656	"
6.04	2.88	3.16	7.05	15.00	16.13	"	47657	"
7.66	4.46	3.20	8.95	17.20	18.89	"	47658	" Ash high.
5.26	2.30	2.96	7.22	16.30	17.55	"	47659	"
5.44	2.30	3.14	6.52	14.30	15.29	"	47660	"